KATHRYN E. MAXFIELD

Summary of the Information Collected by the Uniform Type Committee on the Mechanics of Reading Raised Type.

HV1661
.M394
1925

M.C. MIGEL LIBRARY
AMERICAN PRINTING
HOUSE FOR THE BLIND

21386-MIGEL
HV1661.M394 1925
c.1

Summary of the Information Collected by the Uniform Type Committee on the Mechanics of Reading Raised Type

By

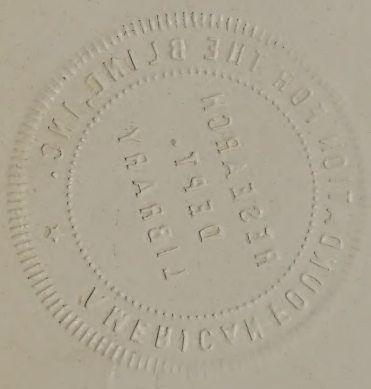
KATHRYN E. MAXFIELD

Research Psychologist, American Foundation for the Blind

AMERICAN FOUNDATION FOR THE BLIND, INC. RESEARCH DEPT. LIBRARY

Reprinted from the "OUTLOOK FOR THE BLIND" of March, 1925.

Published by the American Foundation for the Blind, 41 Union Square West, New York



HV 1666
M
Cop. 1

EDITORIAL

NEW LIGHT ON BRAILLE READING

THE reader's attention is called to an article by Miss Kathryn Maxfield entitled, "Summary of the Information Collected by the Uniform Type Committee on the Mechanics of Reading Raised Type." Teachers of the blind who have been perplexed regarding some of the mechanics of Braille reading peculiar to touch readers will, we believe, welcome this contribution.

Newcomers in work for the blind may not be as familiar with the activities of the Uniform Type Committee as those who lived through the stirring times of ten or fifteen years ago. Recent recruits among the forces of teachers in the schools for the blind hear now only the faintest echoes of what was once a serious controversy. It is difficult for our new friends to realize what profound emotions were aroused over the type question, which in certain sections of this country divided workers for the blind into two bitterly hostile camps.

How the question was in the end tacitly submitted to a board of arbitration, composed of touch readers, is an old story to all. The investigations of this Committee involved among other things the making of test readings by some twelve hundred blind people scattered from the Atlantic to the Pacific in the United States and Canada, as well as in the British Isles. The important question to be settled at the time was the relative legibility of the various punctographic codes. Incidentally, however, those conducting these tests collected considerable valuable material regarding the reading processes of the subjects tested. This information, however, has lain for years locked in the archives of the Uniform Type Committee. Not until the advent of a research psychologist on the staff of the American Foundation for the Blind has any one had the time to study these data and interpret them for the benefit of teachers of Braille reading.

Thanks are due to Mrs. E. H. Fowler, one time agent of the Uniform Type Committee, for her cordial cooperation which went far toward making the publication of this paper at the present time possible. Thanks are also due Lady Francis Campbell for days of work spent in assisting Miss Maxfield in the preparation of this material.

One is impressed in reading Miss Maxfield's paper not so much with the fact that any new methods of reading have been discovered but that old theories advanced dogmatically have received little if any substantiation in these data. For instance, the teacher who insists that the pupil must hold the beginning of his line with his left hand and read with his right hand, if he is ever to attain any success in reading, finds scant support for her theory. Those who read with the right hand only were no more predominant among the rapid readers than among the slow readers, and only about one-third of those who were among the rapid readers held the beginning of the line with the

left hand. This throws a deep shadow of doubt over the case of the teacher who contends that this procedure is the only reliable route to smooth and rapid reading. Several other theories, so frequently advanced with an air of certainty, are confronted by embarrassing facts. The soft fingered typist makes only a poor showing as compared with the horny-fisted laborer. Again females show no striking predominance among rapid readers.

Miss Maxfield's study leaves us with a feeling that we should not be too dogmatic regarding many phases of the subject of Braille reading. It should be noted, however, that there are certain hand positions which are much valued by rapid readers. These are worthy of the careful attention of the teachers who are struggling with the all important problem of how to increase the speed of touch reading. There is but a small number of readers who make a practice of "looking ahead," as it were, to the next line. Most of these are among the rapid readers. It would be interesting if some teachers would definitely try out this procedure. The Director of Research for the American Foundation for the Blind will be glad to know of the experience of any teacher in this connection.—R. B. I.

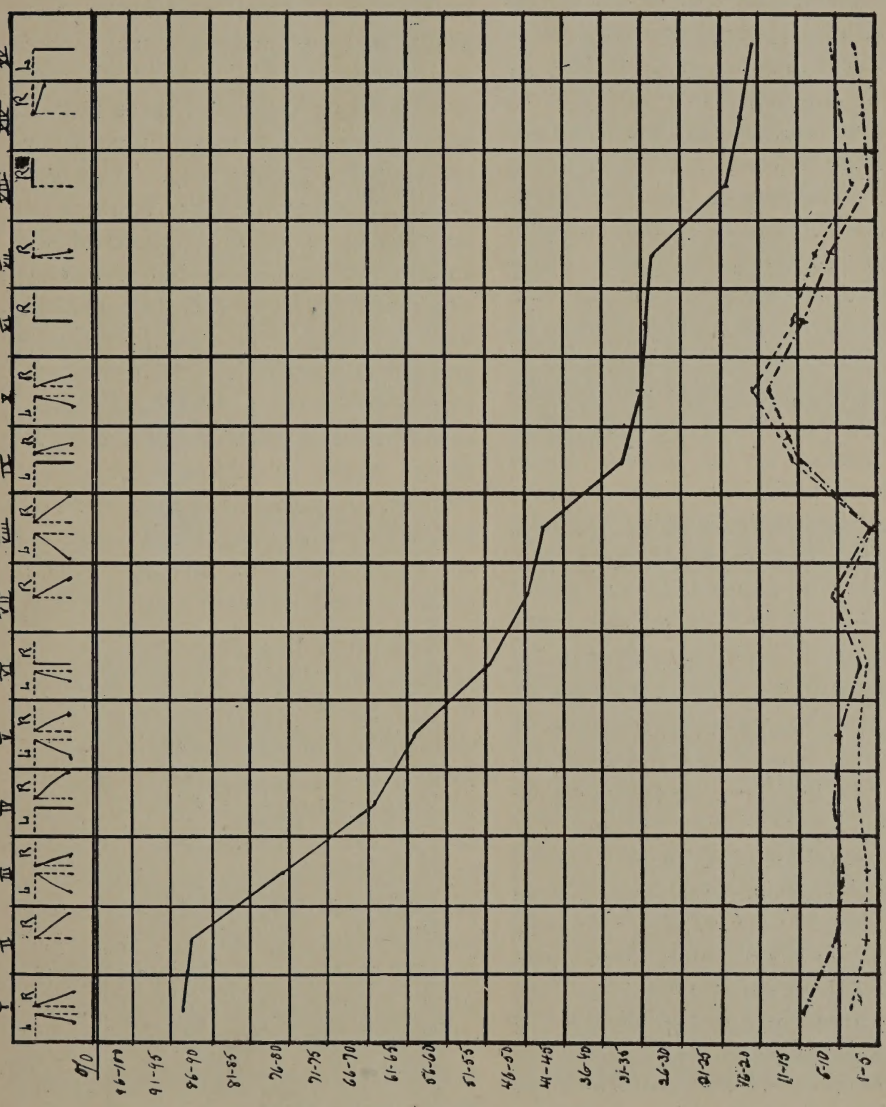
Summary of the Information Collected by the Uniform Type Committee on the Mechanics of Reading Raised Type

By Kathryn E. Maxfield
Research Psychologist, American Foundation for the Blind

BEFORE entering upon the large and involved field of the pedagogy of reading, it is important that we do what we can to settle points on the mechanics of reading about which there are differences of opinon. For help along this line, we have turned to the records of the Uniform Type Committee.

During the year 1912, while the Uniform Type Committee was collecting data, in the United States and Great Britain, on the relative legibility of different punctographic systems, much supplementary material was gathered under the heading of "Information Regarding Persons Taking the Tests." Until now, these facts have never been studied. Mrs. E. H. Fowler, agent for the Committee, made a chart showing the speed of reading for the four hundred and thirty-four who read the selection of one hundred and seventy-four words in one hundred seconds or less, or at the rate of at least one hundred

CURVE SHOWING POSITIONS OF READING FINGER Held by Different Percentages of the Total Group (1200), of the Faster Group (434), and of the Various Percentages that the Number in the Faster Group Using Each Position is to the Number in the Total Group Using the Same Position.



———Percentage that the number in the Faster Group is of the number in the Total Group using each position.
— — — —Percentage of the 1200 holding each position.
– – – – – –Percentage of the faster 434 holding each position.

and four words a minute This represents thirty-six per cent of the total number of readers. Unfortunately, records are unavailable which give the speed of reading attained by the remaining seven hundred and sixty-six readers.

While reading the following pages it is necessary to bear in mind that the Uniform Type Committee records are on *oral* reading only. It may be noted, in passing, that probably all of the twelve hundred persons taking the tests had at least average reading ability. This means that our classification of them is more strictly a division between fast and faster readers than between slow and fast, as we have sometimes designated them.

In regard to the ways in which the reading finger is held, the twelve hundred readers in the survey found forty-four noticeably different ways of holding their reading fingers. Naturally, there is not a very large percentage of either the total group of twelve hundred or of the faster four hundred and thirty-four using any one position. If we consider only those held by fourteen or more of the twelve hundred readers, we reduce the number of positions to fifteen.

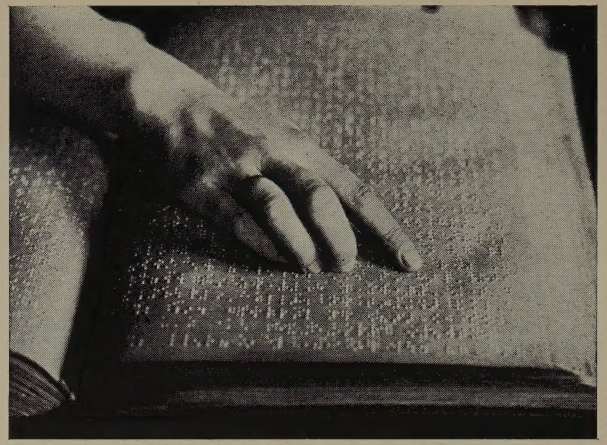
The accompanying graph shows the percentage of the total group of twelve hundred and of the fast group of four hundred and thirty-four, which hold these different positions. The positions are drawn at the top of the graph, just as they were copied from the chart of the Uniform Type Committee, since there is no adequate way of expressing them in words. The cuts illustrate Positions I, II, III and X, as shown on the graph.

The top curve on the graph shows what percent of the number holding any one position is to be found in the fast group. That is, since sixty, or thirty per cent of the one hundred and ninety-nine who hold the tenth position are from the fast group, then the percentage of fast readers in this group is about the same as in the entire group of twelve hundred. Approximately one-third of those assuming the ninth and eleventh positions are from the faster group. These positions, together with the tenth, may be considered as those assumed by an equal proportion of fast and average readers. They therefore neither help nor hinder the reading process, generally speaking. In individual cases, however, a child who had started reading with one of these positions might be seriously hampered thereby. Any pupil retarded in reading, who holds one of these positions, should be tried with one of the first positions on the chart.

If the first three positions are examined, the preference shown them by the faster group can be seen at once. Position I (Cut I) is held by forty-five, eighty-nine per cent of whom are in the faster group. Only twenty-six hold the second position (Cut II, Position II), but eighty-nine per cent of them are in the faster group. Nineteen, or seventy-six per cent of the twenty-five who hold the third position, (Cut III) are also in the faster group. Such a marked preference for these positions, on the part of the faster readers, leaves no doubt as to their value.

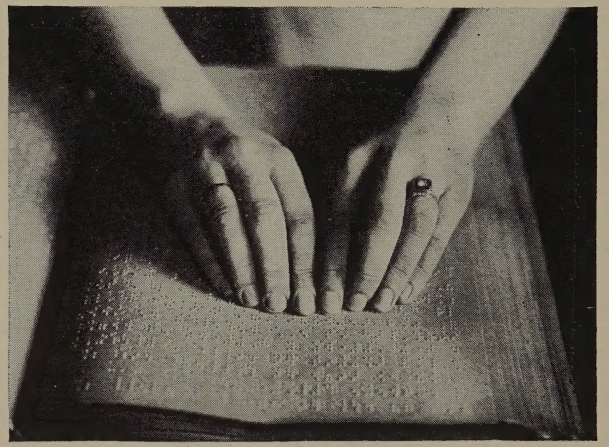
Such a large proportion of the peo-

Cut I, Position I



Cut II, Position II

Cut III, Position III



Cut IV, Position X

ple taking the tests—eighty-five per cent of the slower readers and ninety per cent of the faster ones—hold the reading finger slanting, forming a narrow, acute angle with the plane of the paper, (Cut V), that the correct position of the reading finger seems to be well determined.

Of the 579 using both hands, 43 per cent are in the fast group. Over one-third of the twelve hundred read with the right hand only, and 32 per cent of these are in the faster group. Thus, a slightly larger proportion of slow readers than of fast ones, use the right hand alone. Very few use only the left hand in reading, and of these few but 19 per cent are in the faster group.

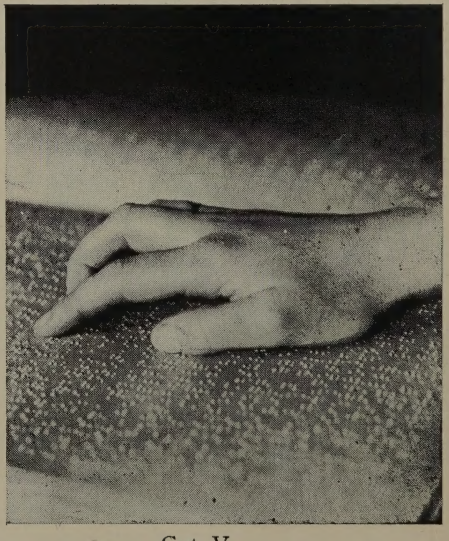
Of those who read with the right forefinger alone, about one-third keep the beginning of the line with the left hand. Sixty-seven per cent of these are from among the slower readers. The two-handed readers who follow to the end of the line with both hands appear equally often in the faster and the slower groups. There are only fifteen who read ahead on the next line, but four-fifths of them are among the faster readers. The people who read otherwise—those apparently guiding the one hand with the other, those not using the left hand at all, or the right hand at all—are found predominately in the slower group.

More than 92 per cent of the twelve hundred readers keep the book nearly parallel with the edge of the table or desk. Over four-fifths of those who turn it to a marked degree are in the slow group.

Theoretically, speed of reading would be greater if all up and down motion of the reading-finger could be eliminated, so that the finger might waste no time, but run smoothly and evenly over the line. However, the fact that over 90 per cent of all the readers have a small amount of up and down motion shows that this is at least the natural way of reading. The figures of the Uniform Type Committee show no relationship between fast reading and absence of up and down motion of the reading finger.

The statement is often made that there are more good readers among females than among males. A slight difference tending to prove this contention appears in the records of the Uniform Type Committee. Whereas there are 6.5 per cent more females than males in the total group of twelve hundred, there are 14.3 per cent more in the faster group of 434 readers.

The Uniform Type Committee has recorded the occupations of all its twelve hundred subjects. These occupations naturally vary a great



Cut V.

deal. However, they may be grouped, for the sake of convenience, into five classes—those who are recorded as doing Braille Work, Music, Study or Nothing, Teaching or Professional Work, Tuning, Manual Work, and Typing. Wherever a person has two or more occupations which would come under more than one heading, he is classified under the occupation which seems to be his major one. The accompanying table will show the general tendency that is found to exist:

TABLE SHOWING PERCENTAGE OF FASTER AND SLOWER READERS IN EACH OF SEVEN OCCUPATIONAL CLASSES

Occupation	*Faster Readers*	*Slower Readers*
Braille Work	66.7	33.3
Music	45.1	54.9
Study or Nothing.....	35.0	65.0
Teaching or Professional Work	31.9	68.1
Tuning	30.8	69.2
Manual Work	29.9	70.1
Typing	6.2	93.8

The foregoing table shows quite distinctly a close relationship between constant familiarity with Braille and the speed of reading it, rather than a relationship between occupation, per se, and speed of reading. Braille transcribers, stereotypers, or proofreaders undoubtedly have more constant practice in reading Braille than do any other group of people. Musicians are very dependent on Braille, and necessarily devote much time to it. Approximately one-third of the students, teachers, professional workers and those with no occupation are found in the fast group and two-thirds of them are in the slow group. Since the fast group is about one-third of the total group, these figures show that people in the last named occupations appear equally often among the faster and the slower readers.

By way of summarizing the records of the Uniform Type Committee, which have given us the foregoing information, we might consider what would constitute the mechanically ideal Braille reader. One expert reader of Braille might be a woman Braille worker who uses both hands for reading, as in Cut I, keeps both reading-fingers at the slant shown in Cut V, reads ahead on the next line with the left, and keeps the edge of the book practically parallel with the edge of the desk. She, of course, reads at the rate of at least one hundred words a minute.

This ideal reader might read with the right forefinger only, (Cut II), or with both hands as in Cut III. Many very good readers also hold their reading-fingers as shown in Positions IX, X and XI on the graph, although these positions are not peculiar to good readers.

It would seem desirable to make a little different approach to some of the points covered in the records of the Uniform Type Committee. In order that we may do this, we are planning to do some testing which will give figures on both oral and silent reading. Speed and number of errors will be recorded for each person. The results of our findings will be published in the Outlook for the Blind.

HV1666
M

Maxfield, Kathryn E.
Summary of the information collected by the uniform type committee on the mechanics of reading raised type.

Date Due

HV1666
M

c. 1

Maxfield, Kathryn E.
AUTHOR

Summary of the information collec-
TITLE ted by the Uniform Type Committee on the mechanics ofreading

DATE LOANED	BORROWER'S NAME
NOV 23 '68	[illegible]
12 15 69	1st letter sent

PAMPHLET BINDERS

This is No. 1527

also carried in stock in the following sizes

	HIGH	WIDE	THICKNESS
1523	9 inches	7 inches	½ inch
1524	10 "	7 "	"
1525	9 "	6 "	"
1526	9¼ "	7¾ "	"
1527	10¼ "	7¾ "	"
1528	11 "	8 "	"
1529	12 inches	10 inches	½ inch
1530	12 "	9¼ "	"
1532	13 "	10 "	"
1533	14 "	11 "	"
1534	16 "	12 "	"

Other sizes made to order.

MANUFACTURED BY
LIBRARY BUREAU
Division of REMINGTON RAND INC.
Library Supplies of all Kinds